FIG.1

FIG. IA

θ_r

θ_a

140

142

R

L

120

115

130

100

V

132

120

115
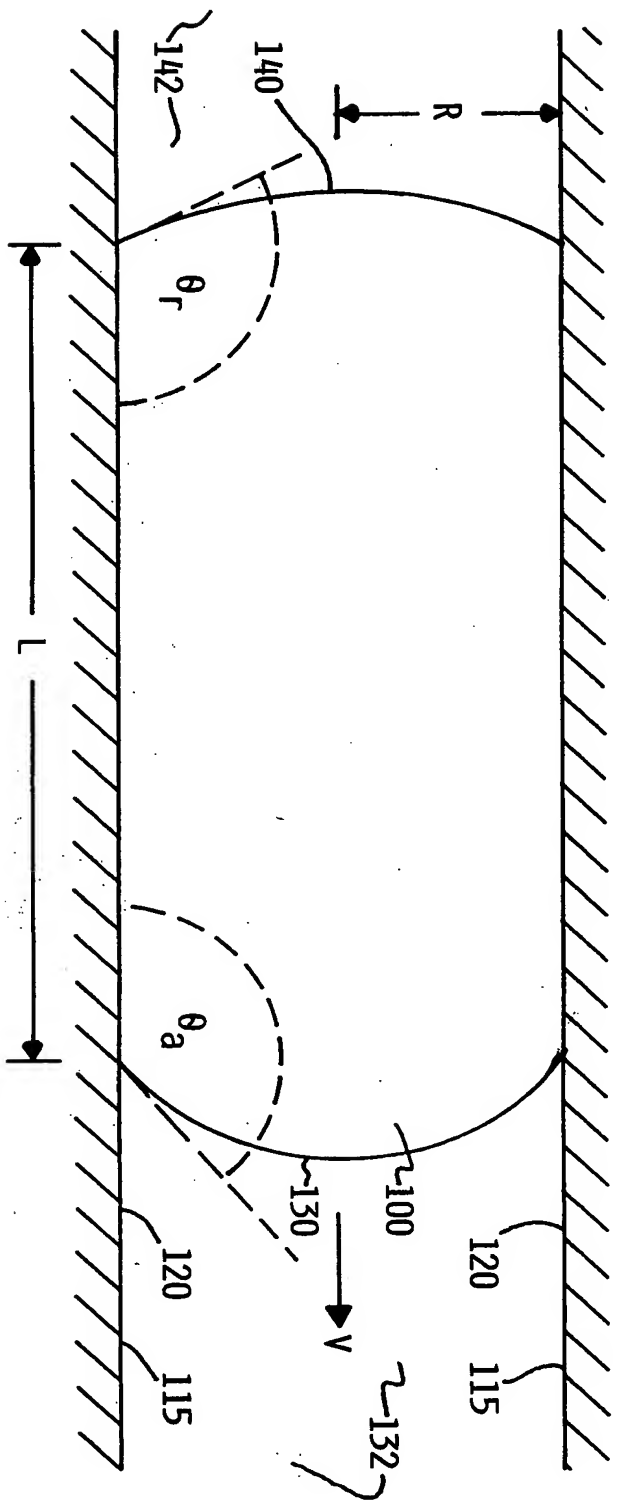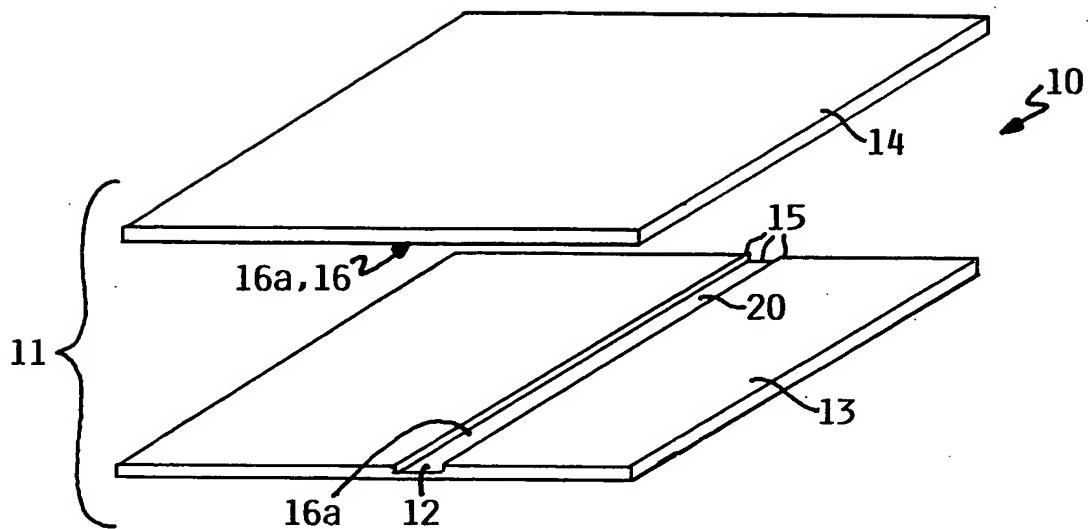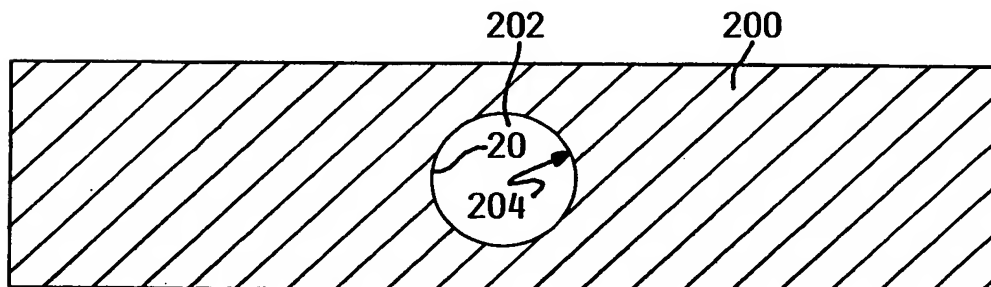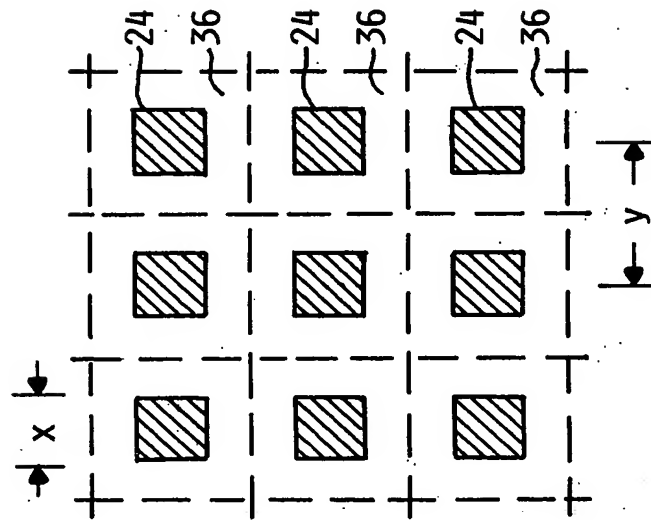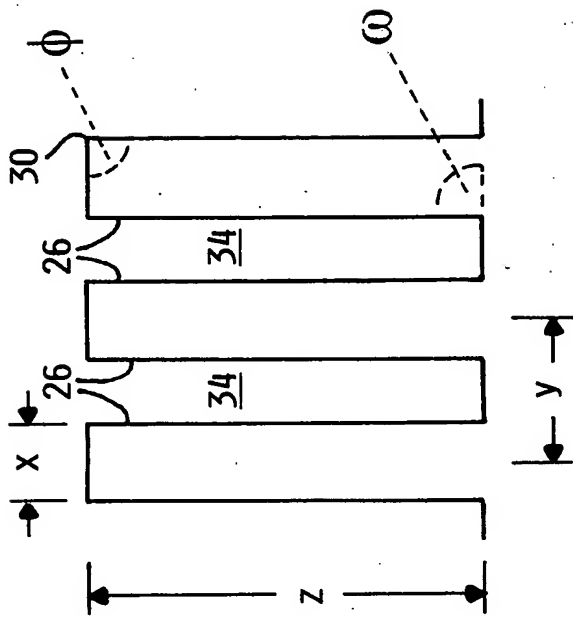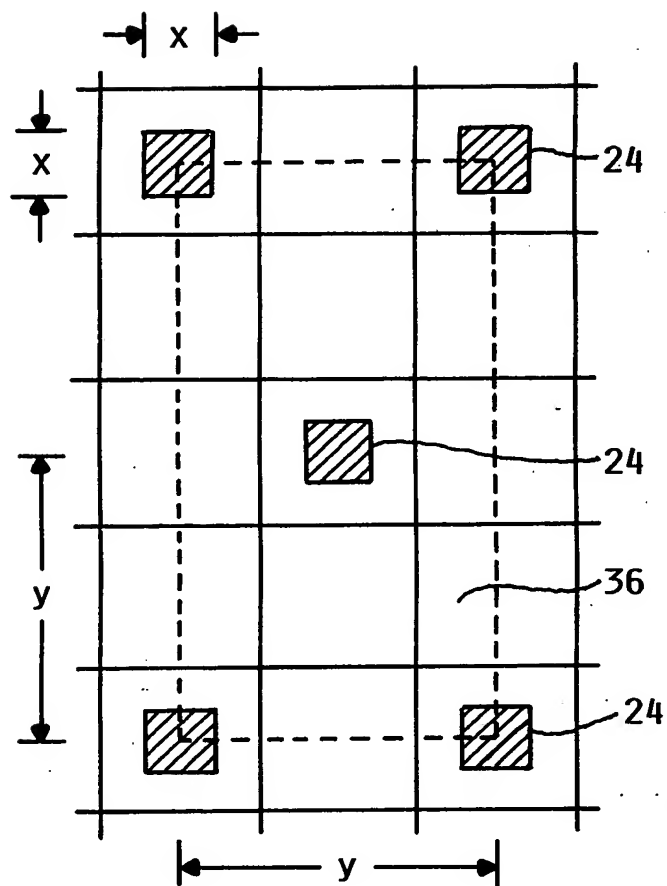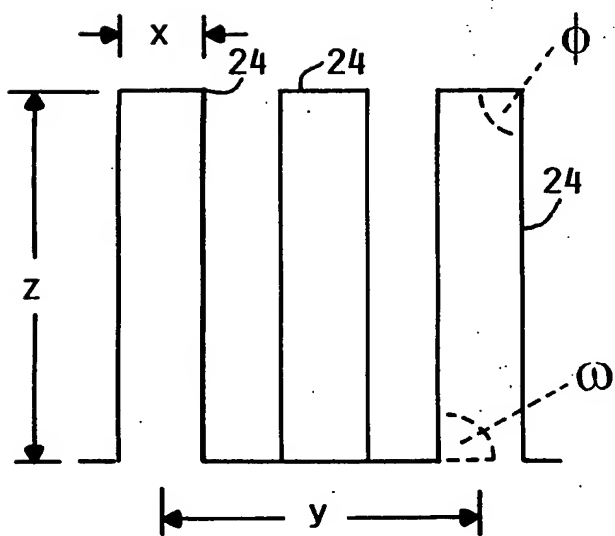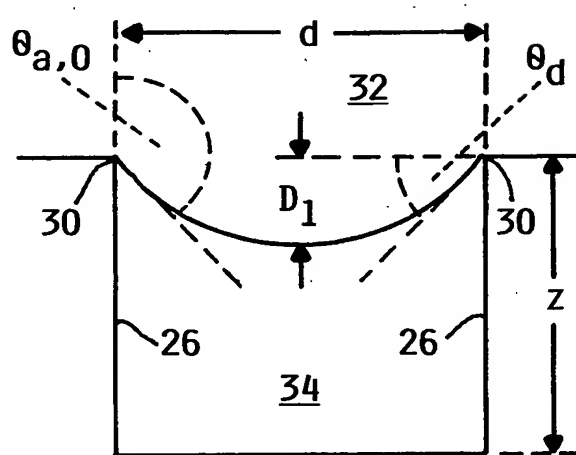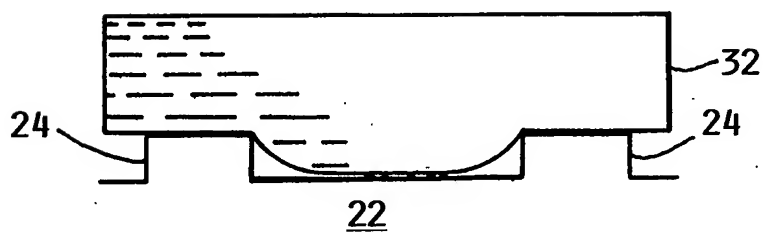
FIG. IB

FIG. IC

FIG. 3

FIG. 2

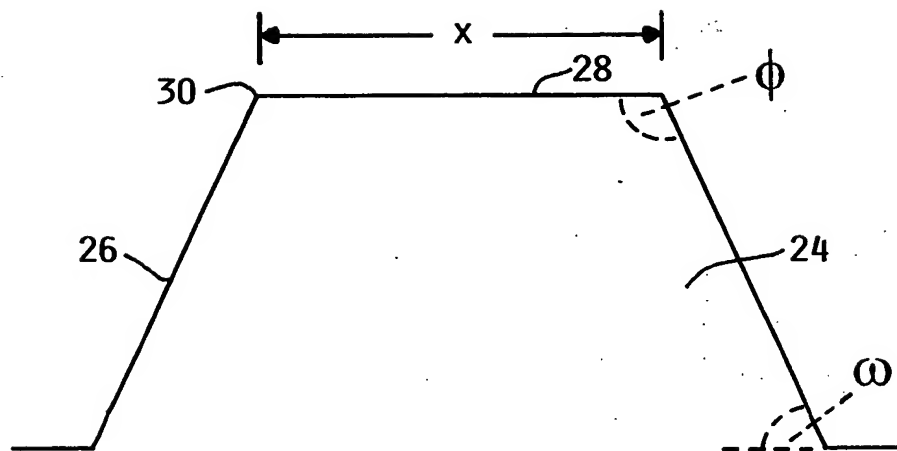FIG. 4

FIG. 5
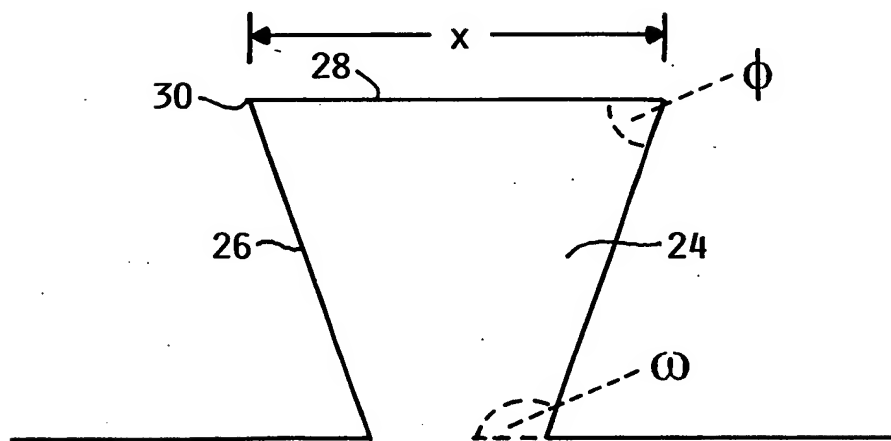
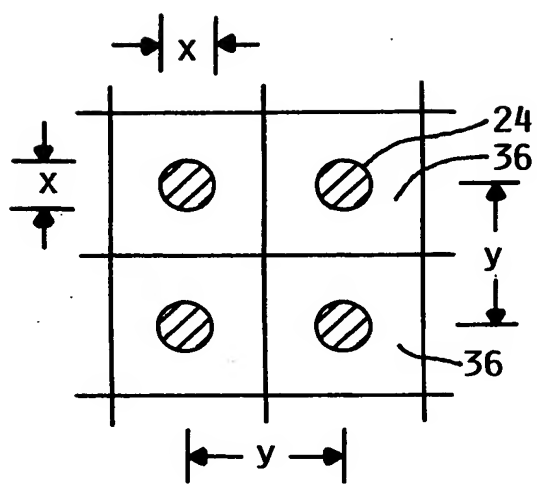

FIG. 6

FIG. 7

FIG. 8

FIG. 9

FIG. 10

FIG. 11

FIG. 12

Contact Line Density (Λ) and Linear Fraction of Contact Along Asperities (λ_p)

Geometry	Λ	λ_p
Hexagonal Array of Square Posts	$\dfrac{4x}{y^2}$	$\dfrac{(x/y)}{\{[5/4-2(x/y)+(x/y)^2]^{1/2}+x/y\}}$
Rectangular Array of Square Posts	$\dfrac{4x}{y^2}$	$\dfrac{x}{y}$
Rectangular Array of Cylindrical Posts	$\dfrac{\pi x}{y^2}$	$(1-x/y)[1+(1/2\pi-1)(x/y)]$
Parallel Ridges	$\dfrac{2}{y}$	$\dfrac{x}{y}$

FIG.13

FIG. 14

FIG. 15
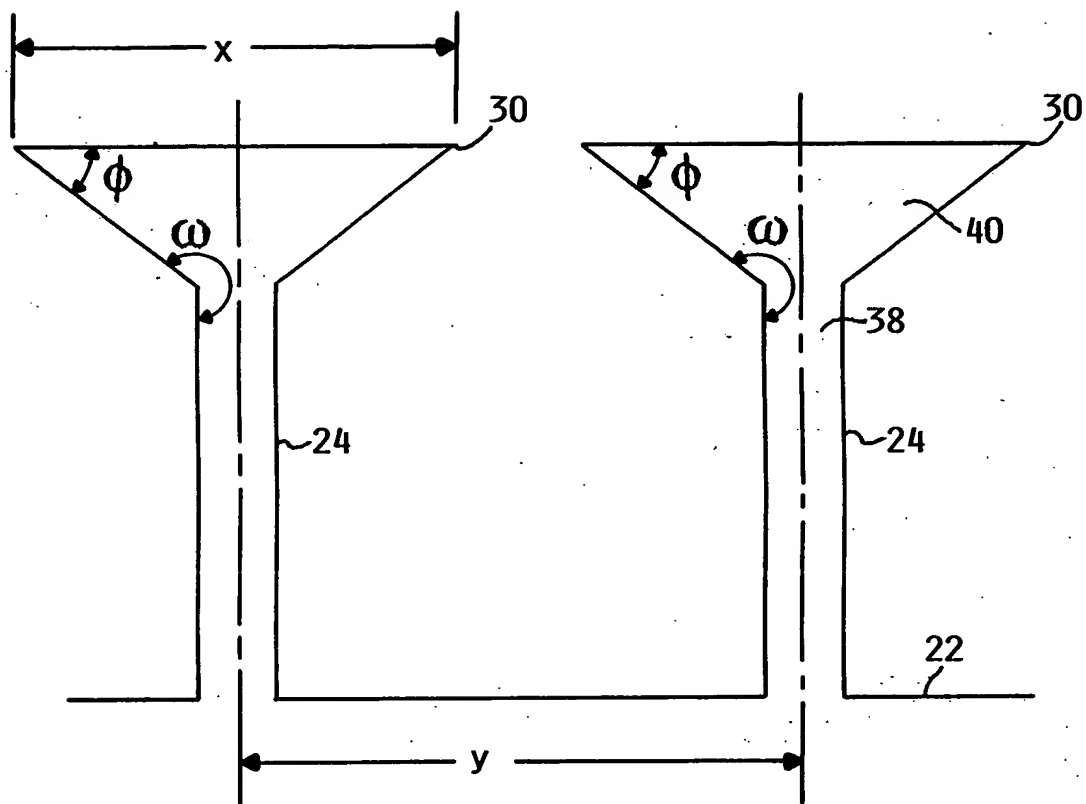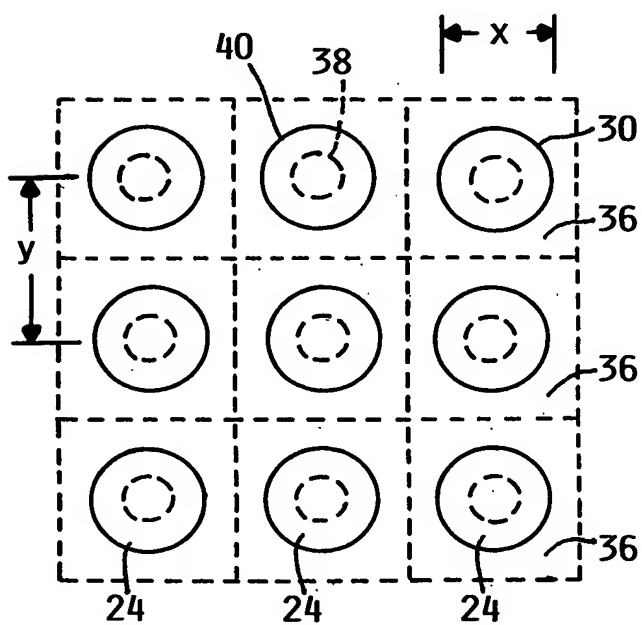

FIG. 16

FIG. 17

The chart shows P(Pa) versus y(m) on logarithmic axes.

Legend:
- x/y=0.7
- x/y=0.5
- x/y=0.3
- x/y=0.1
- x/y=0.01
- x/y=0.001

$\omega = 90°$
$\theta_{a,0} = 110°$
$\gamma = 0.073\,N/m$

Y-axis (P(Pa)): 1.00E+08, 1.00E+07, 1.00E+06, 1.00E+05, 1.00E+04, 1.00E+03, 1.00E+02, 1.00E+01, 1.00E+00, 1.00E-01, 1.00E-02

X-axis (y(m)): 1.00E-09, 1.00E-08, 1.00E-07, 1.00E-06, 1.00E-05, 1.00E-04, 1.00E-03